

# Work Order ID 69227

Thursday, May 05, 2011 11:47:34 AM



Page 1

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

*Handwritten signature*

Date: 5/5/11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3391	Rev H/ DEO

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: *AA* & Dwg D3391 Rev: *11*

\*\*\*scribe batch # on fwd end at 90 degree\*\*\*

*J.F.S. / gmg / 11/05/11*

1

*Ø*

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*J.F.S. / gmg / 11/05/11*

1

*Ø*

111

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

*SL 11/05/24*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Work Order ID 69227**




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Item ID: D3391-025 Accept  Setup Start   
Revision ID: Stop   
Item Name: Aft Tube Assembly  
Start Date: 5/5/2011 Start Qty: 1.00  Cust Item ID:  
Required Date: 5/20/2011 Req'd Qty: 1.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1  Memo 1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>H</u> 2-Deburr	0.00  0.00	B.A	11/05/24		1	0		
130  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo	0.00  0.00	B.A	11/05/24		1	0		
140  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00  0.00	SL	11/05/24					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

DP

11-5-25

160

0.00



CNC Bend I

BENDING MACHINE - SKIDTUBES

Memo

0.00

Form as per Dwg D3391 Using Bend Prog 3391025

DP

11-5-25

170

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

H 4.25

BE 11/05/25

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217  
Wearplate Jig .

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2  
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per  
Dwg D3391.

7-Deburr

11-5-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00		8 W05/31					
200  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00 0.00							IX  M-11/06/02
210  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00 0.00							DP 11-6-3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

250

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

0.00

260

HandFinishing

0.00



HandFinish

Hand Finishing

Memo

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/ R Sikaflex-241/-291

Sikaflex expiry date:

0.00

IX ~~0~~ M-11/06/071 ~~0~~ M-11/06/071 ~~0~~ M-11/06/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 69227**

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Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

270

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/06/08



280

Identify as per dwg & Stock Location: W/O

0.00



Packaging

Memo

0.00

Packaging

0412-742-043 / 069243

1 0 8/10/06/08

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/6/08

CMF  
11-06-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

Thursday, May 05, 2011 11:47:41 AM

Page 1

Work Order ID: 69227

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly



Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC  
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM □□□□  
 IPP rev D 07.03.20 revF dwg EC  
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD  
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC  
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090  ALUMINUM EXTRUSION		Manufactured	No			100	Each	11.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>					
				LG				11					
				56572				11					
D3670-4-200  SPACER		Manufactured	No			230	Each	58.0000	4	4			
				<u>Location</u>				<u>Loc Qty</u>					
				LG				58					
				B68950				58					
				68107									
D2646  Aft Cap		Manufactured	No			270	Each	47.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>					
				FP006				43					
				62678				43					
				FP-4				4					
				69019				4					

mm.L 11/05/11

4 DD 11-6-3

rel 11/06/07

x1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Thursday, May 05, 2011 11:47:41 AM

Work Order ID: 69227

Parent Item: D3391-025


Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011


Start Qty: 1.00

Required Qty: 1.00

D3537-1      Manufactured      No      270      Each      20.0000      1      1  
  
 Wearpad


Location	Loc Qty	Loc Code
FP017	20	
63313	2	1368944
66135	14	
66935	4	

11/06/07

D3537-7      Manufactured      No      270      Each      10.0000      1      1  
  
 Wearpad


Location	Loc Qty	Loc Code
FP017	10	
56831	3	
<u>65146</u>	7	

11/06/07

D3553-1      Manufactured      No      270      Each      22.0000      1      1  
  
 Gasket

Location	Loc Qty	Loc Code
FP013	22	
<u>56568</u>	22	

11/06/07

D3553-3      Manufactured      No      270      Each      46.0000      1      1  
  
 Gasket

Location	Loc Qty	Loc Code
FP	20	
31631	20	
FP013	26	
<u>53480</u>	26	

11/06/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 69227

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

270 Each

1,379.000 2 2



Phenolic Washer



all 1106107

Location

Loc Qty

Loc Code

FP-A

29

52505

29

ST074

1350

64177

850

66821

500

x2

ALS4-1032-130 Purchased No

260 Each

1,338.000 14 14



Insert



all 1106107

Location

Loc Qty

Loc Code

ST281

1338

117331

1338

1117717

x14

ALS4-1032-225 Purchased No

270 Each

1,069.000 12 12



Insert



all 1106107

Location

Loc Qty

Loc Code

FP-B

28

110768

28

ST282

1041

110768

1041

x12

AN3C4A Purchased No

270 Each

1,984.000 6 6



BOLT



all 1106107

Location

Loc Qty

Loc Code

ST350

1984

117094

984

117313

1000

x6

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Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
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Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased

No

270

Each

1,332.000

4

4



Bolt

*all 11/06/07*

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1325

115422

49

116419

376

116549

100

117343

500

117508

300

*yd*

AN960C10L

NAS1149C0332

Purchased

No

270

Each

0.0000

10

10



washer

*N 117291*



*(10) all 11/06/07*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 69227
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b> D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
14.000	+/-0.010	14.000	✓		Mori Lathe	Control
3.500	+/-0.010	3.504	✓		Mic + T.G.	E.D. -15
88.93	+/-0.030	88.930	✓		tape	EC -11
<del>44.995</del>	<del>+/-0.030</del>	N/A				
Ø3.200	+/-0.010	3.200	✓		Micr	CNC-05
<del>Ø8.93</del>	<del>+/-0.030</del>	N/A				
Ø3.750	+/-0.010	3.746	✓		Micr	CNC-05
30° x 160° chamfer	+/-0.010	N/A				

**Measured by:** J.F.S. / J.S.F.S. **Date:** 11/05/11

**Audited by:** J.L. **Date:** 11/05/24

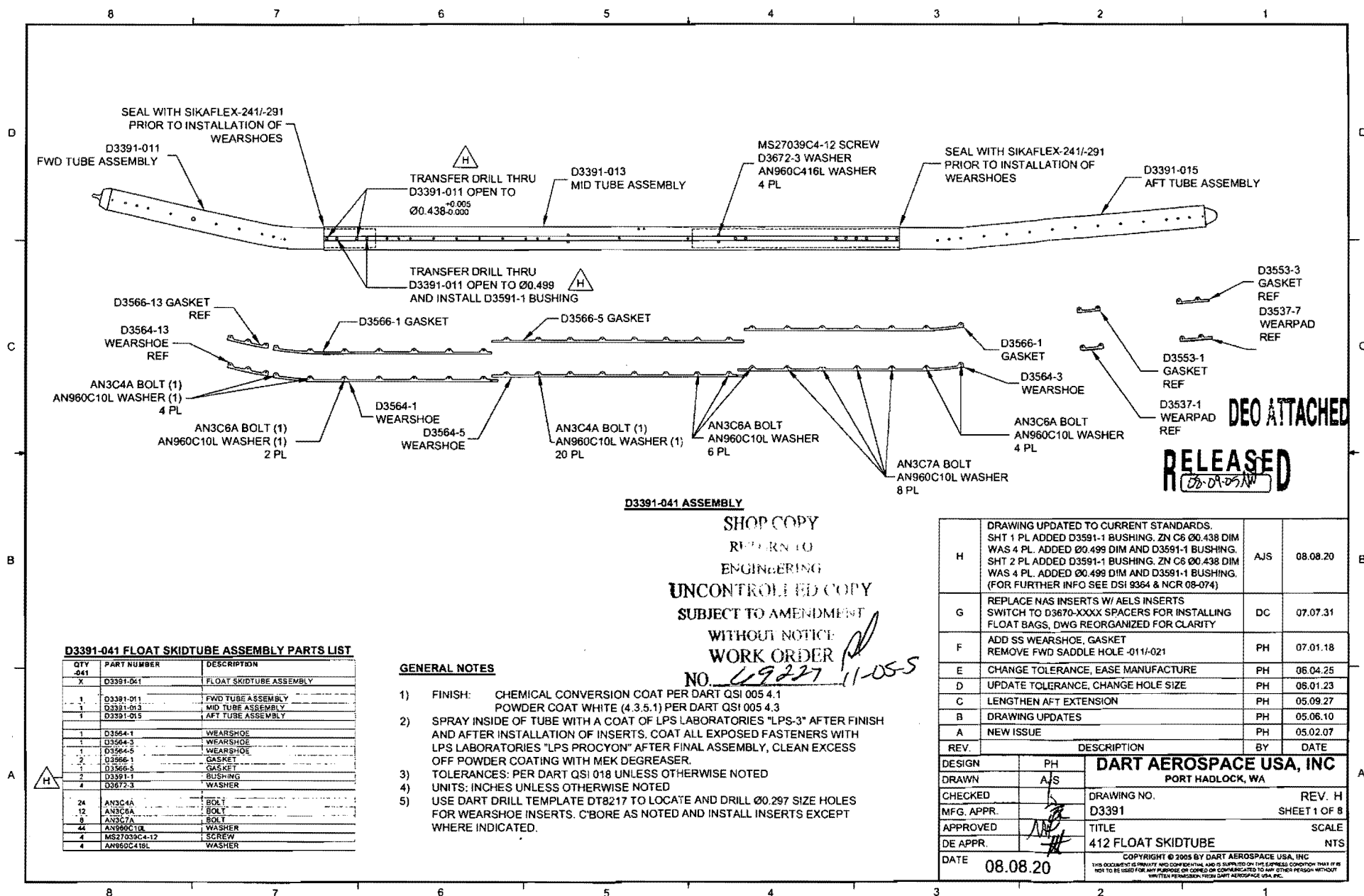
<b>HAAS Section</b>						
1.526	+0.000/-0.030	1.512	✓		Vern	GA-01
7.500	+/-0.010	7.502	✓		Vern	CNC-02
27.750	+/-0.010	27.750	✓		TAPE	GA-12
31.750	+/-0.010	31.750	✓		"	"
35.250	+/-0.010	35.250	✓		"	"
3.300	+/-0.010	3.302	✓		Vern	GA-01
0.200	+/-0.010	0.203	✓		"	"
3.520	+/-0.010	3.522	✓		"	"
0.687	+0.010/-0.000	0.690	✓		"	"
R0.062	+/-0.010	R0.063	✓		R-6	REF.
Ø0.484	+0.005/-0.001	Ø0.489	✓		Vern	GA-01

**Measured by:** J.F.S. / J.S.F.S. / B.A. 11/05/24 **Date:** 11/05/11

**Audited by:** J.L. **Date:** 11/05/24

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	





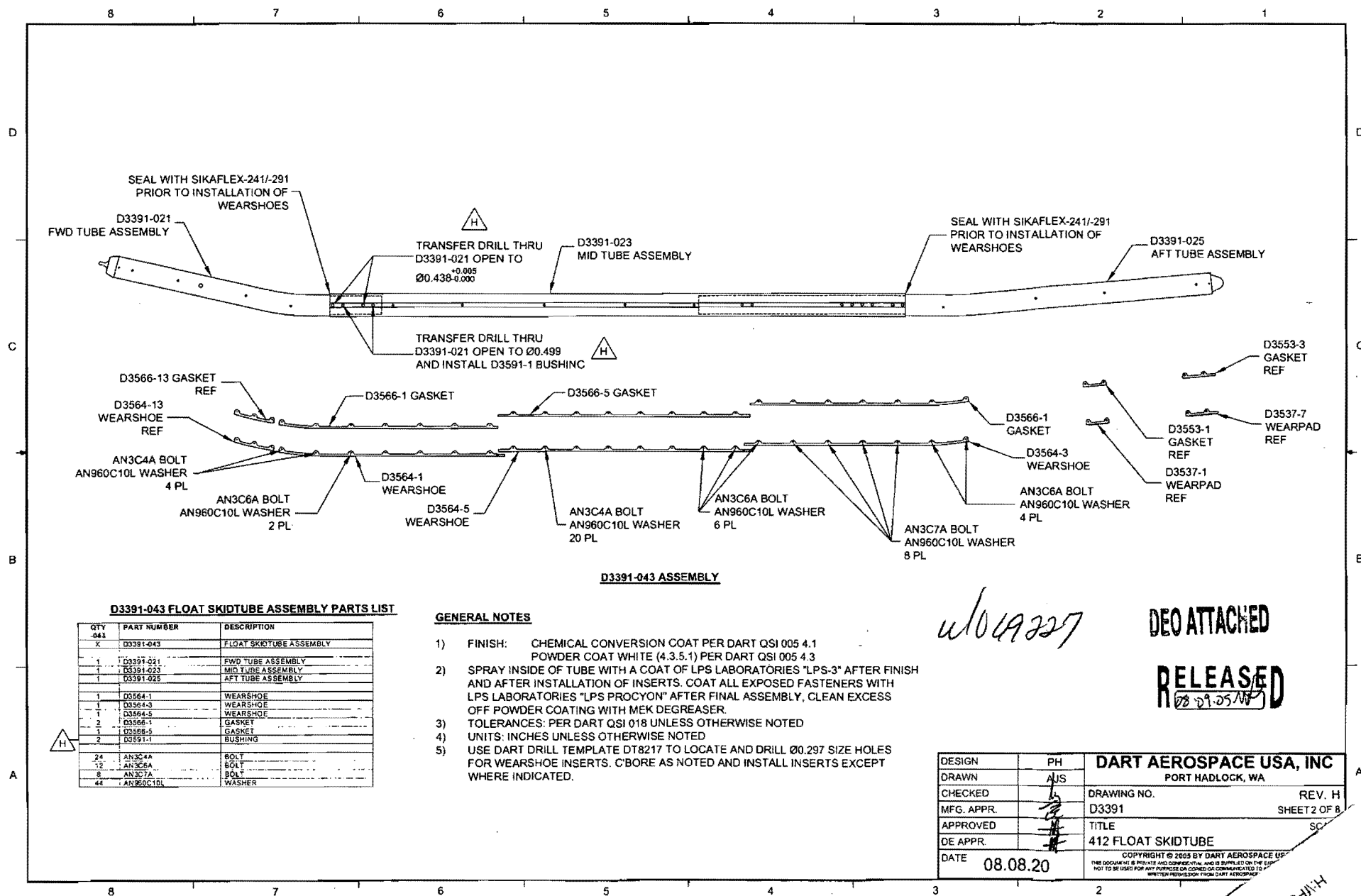
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



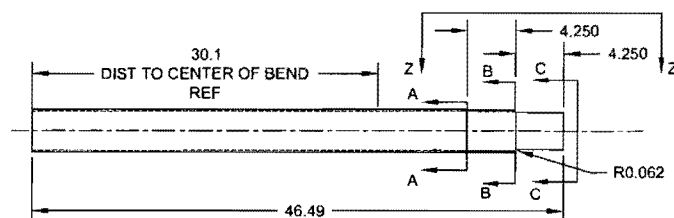
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

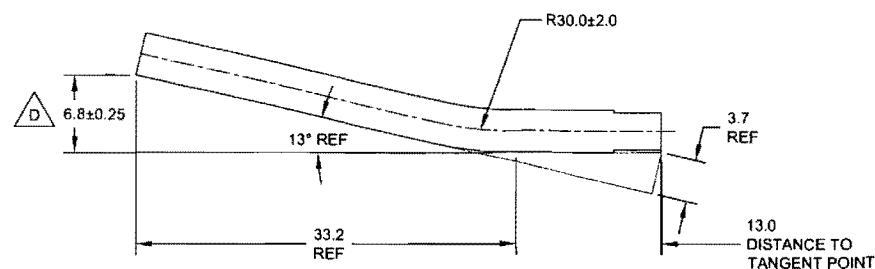
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

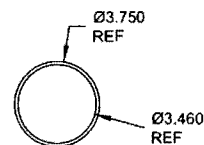
Date & initial all entries



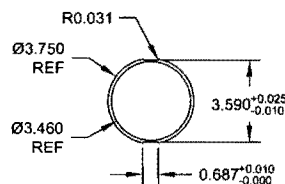
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



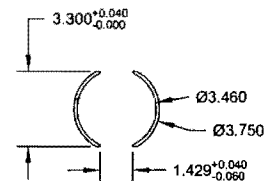
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



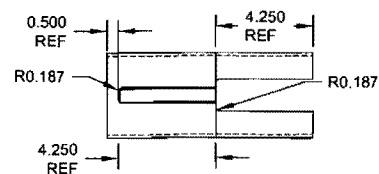
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
SCALE 2X

*u/o 64229*

**DEO ATTACHED**  
**RELEASED**  
*8-8-05 NW*

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

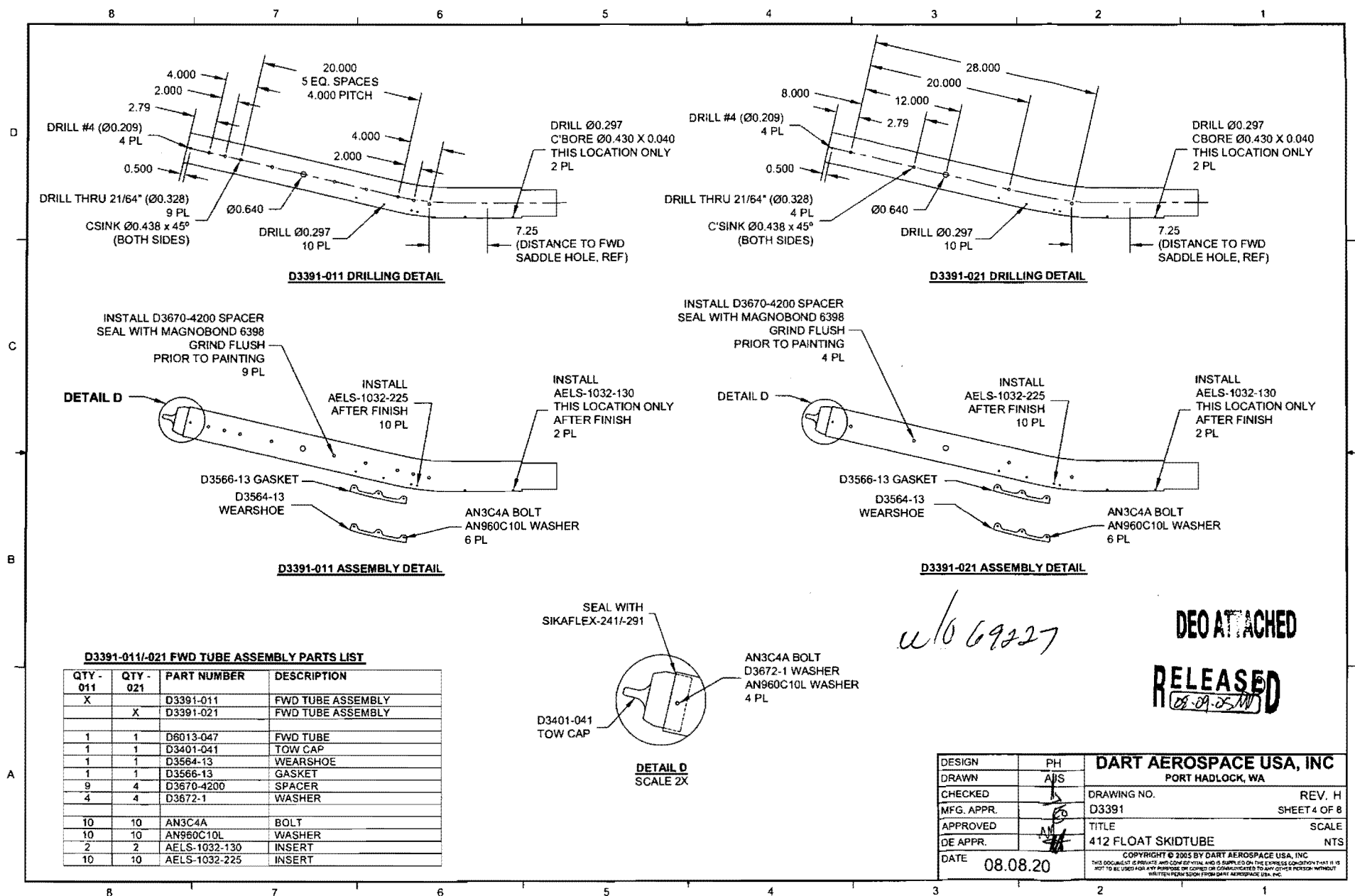
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





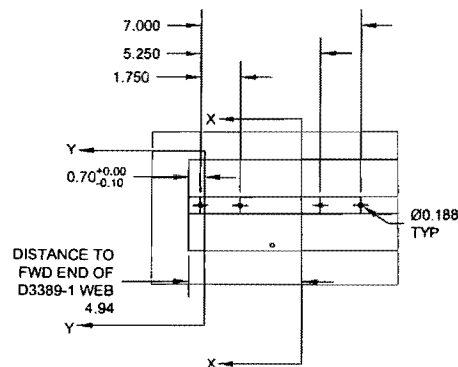
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

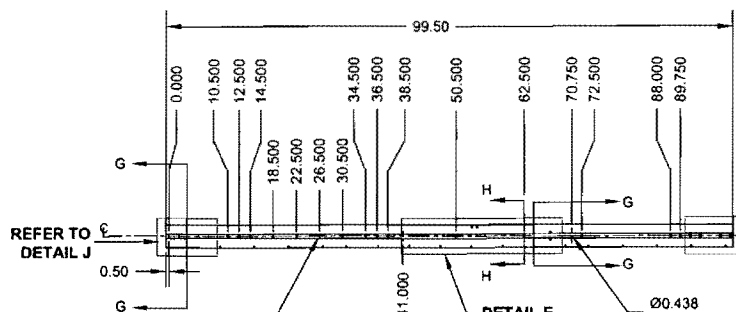
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

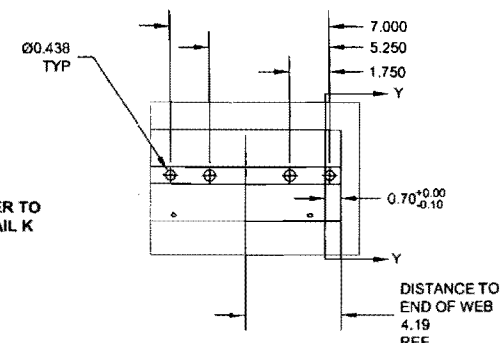


DETAIL J  
SCALE 4X

DRILL THRU 21/64" (Ø0.328)  
CSINK Ø0.438 X 45° (BOTH SIDES)  
12 PL



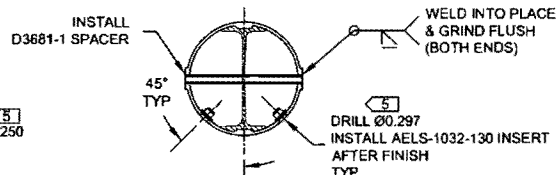
D3391-013 ASSEMBLY DETAIL



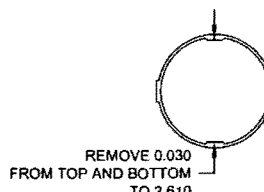
DETAIL K  
SCALE 4X



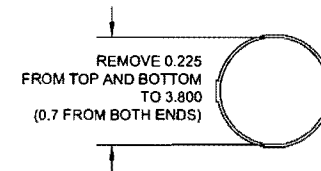
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



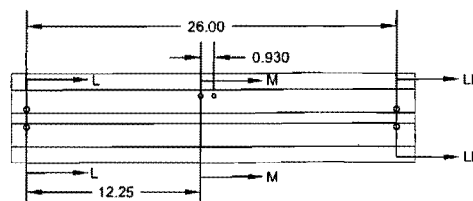
SECTION Y-Y  
SCALE 5X

# D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

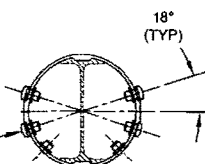
## D3391-013 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

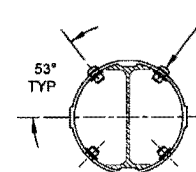


DETAIL E  
SCALE NONE

DRILL Ø0.391  
INSTALL ALS4-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AN960C416L WASHER  
AFTER FINISH  
4 PL



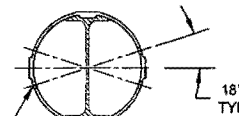
SECTION L-L  
SCALE 5X



SECTION M-M  
SCALE 5X

DRILL Ø0.297  
INSTALL AELS-1032-130 INSERT  
MS27039C1-09 SCREW  
D3672-1 WASHER  
AN960C10L WASHER  
AFTER FINISH  
4 PL

DRILL Ø0.250  
4 PL



SECTION LL-LL  
SCALE 5X

DEO ATTACHED

RELEASED

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
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DE APPR.		412 FLOAT SKIDTUBE	NTS
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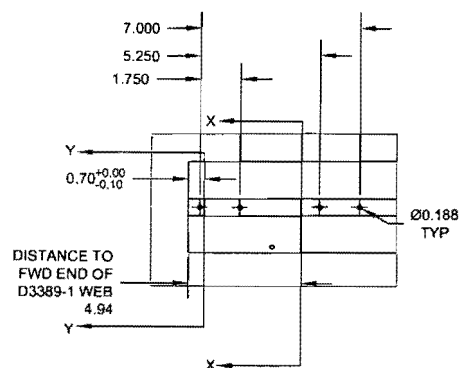
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

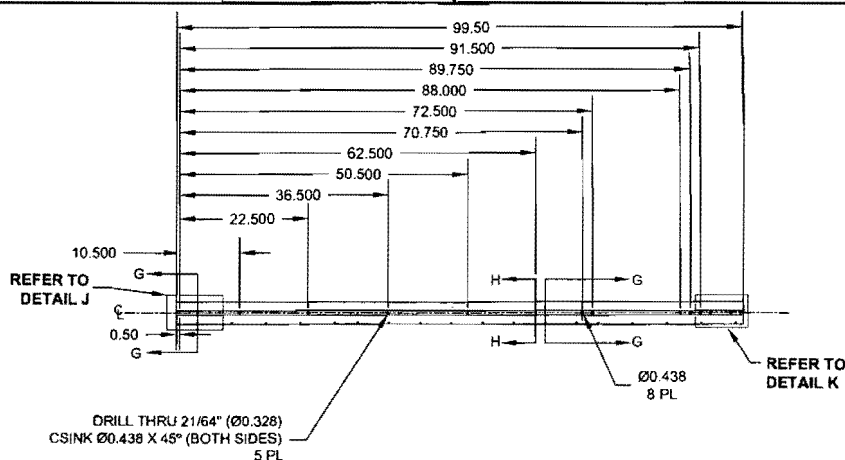
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

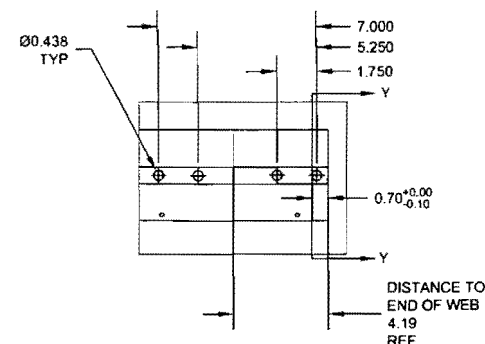
**NOTE:** Date & initial all entries



**DETAIL J**  
SCALE 4X



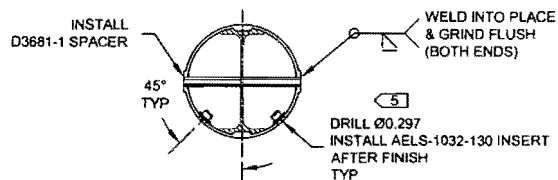
**D3391-023 ASSEMBLY DETAIL**



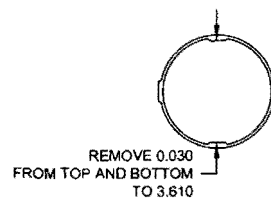
**DETAIL K**  
SCALE 4X



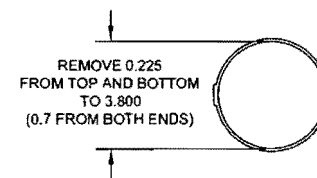
**SECTION G-G**  
SCALE 5X



**SECTION H-H**  
SCALE 5X



**SECTION X-X**  
SCALE 5X



**SECTION Y-Y**  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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DEO ATTACHED

RELEASED  
08-01-25-4W

2/0 69227

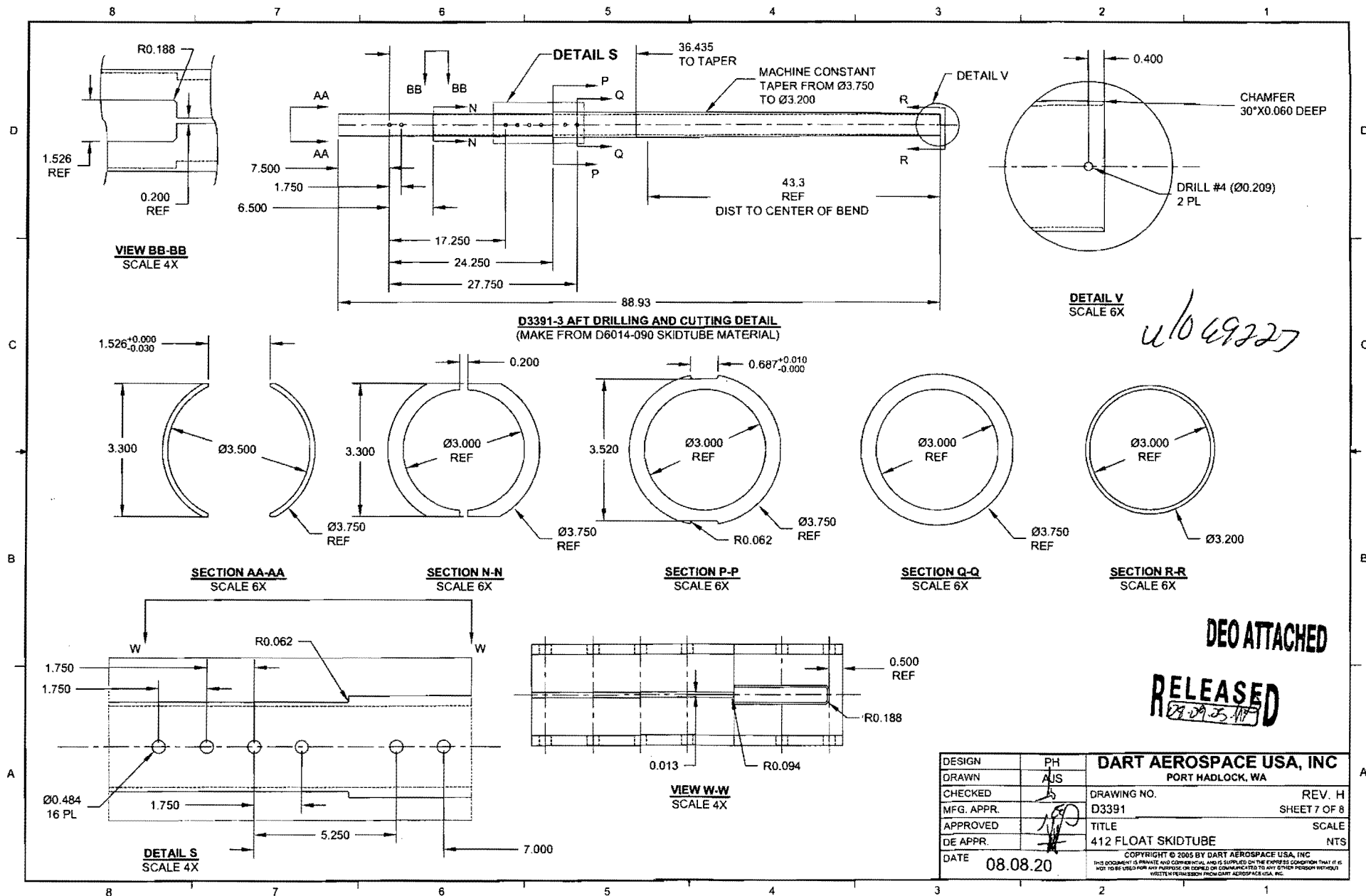
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

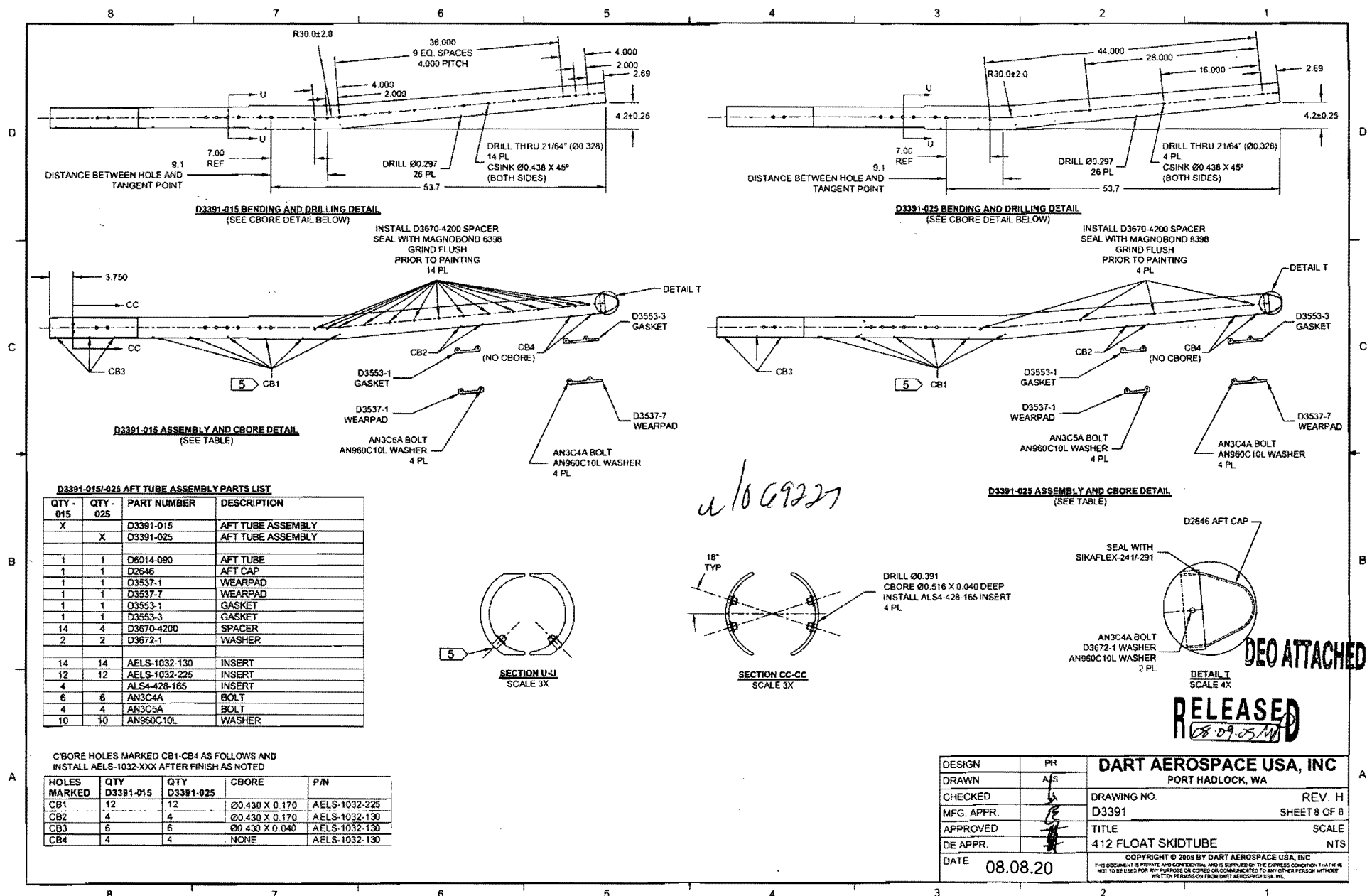
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>M</i>	APPROVED <i>MP</i>	DE APPR. <i>MP</i>			
DATE 09.09.23	DATE <i>04.04.24</i>	DATE <i>09/09/25</i>	DATE <i>09/09/30</i>	DATE <i>09/09/30</i>			

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02

*MP*

*u/069227*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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